

### **REMARKS**

Claims 1-9, 11-15 and 17-29 remain pending in the present application. Claims 10 and 16 have been cancelled. Claims 1-4, 9 and 15 have been amended. Claims 17-29 are new. Basis for the amendments and new claims can be found throughout the specification, claims and drawings originally filed.

### **CLAIM OBJECTIONS**

Claim 2 is objected to because of the following informalities: Claim 2 appears to have incorrect dependency. Claim 2 as originally filed depended from Claim 1. A check of the private PAIR system confirms this. The application, when published (US 2002/0062951 A1) has Claim 2 depending on Claim 11. This appears to be a mistake by the USPTO. The following list of pending claims includes Claim 2 depending from Claim 1. Withdrawal of the objection is respectfully requested.

### **REJECTION UNDER 35 U.S.C. § 103**

Claims 1-7, 9-13, 15 and 16 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mizuno (U.S. Pat. No. 5,070,938) in view of Stenger-Smith, et al. (U.S. Pat. No. 5,904,990). Claims 8 and 14 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Mizuno in view of Stenger-Smith, et al. as applied to Claims 1-7, 9-13, 15 and 16 above and further in view of Morita, et al. (EP 0 782 970). Independent Claims 1, 9 and 15 have been amended to define a method of preventing contamination of a heat exchanger by condensing water on the external surface of the heat exchanger such that a film provided on the external surface contacts the

condensed water. The film generates active oxygen in the condensed water to reduce the amount of organic substances adhered to the external surface. (Claim 1). Claims 9 and 15 define a heat exchanger which is capable of performing the method defined in Claim 1.

The cited references do not disclose or suggest a method of preventing contamination being applied to a portion of a heat exchanger in which condensed water is generated, as is provided in the present application. The method of preventing contamination according to the present invention is applied to the portion of the heat exchanger to further decompose odorous matter and/or organic substances.

As stated by the Examiner, Mizuno discloses the use of an aluminum heat exchanger but Mizuno does not teach the use of active oxygen or the use of a polyaniline.

Stenger-Smith (U.S. Pat. No. 5,904,990) discloses a structure in which polyaniline film coats a metallic surface such as aluminum for preventing corrosion. However, the method and structure of the present invention are applied to a heat exchanger, through which refrigerant passes, for an air conditioner of a vehicle. When the objective is corrosion prevention, the existence of water is irrelevant. When water does not exist, corrosion can be effectively prevented. By contrast, condensed water is positively generated in the present invention to generate active oxygen. The active oxygen generated in the condensed water is used to reduce the amount of organic substances adhered onto the external surface of the heat exchanger. Therefore, the method and structure of the present invention are applied to a heat exchanger, through which refrigerant passes, for a vehicle air conditioner.

Mizuno has the objective of inhibiting the growth of micro organisms while Stenger-Smith is directed to corrosion protection. Neither of these references are directed to the problem being addressed by Applicants' invention which is to generate active oxygen to reduce the amount of organic substances adhered to the external surface and thus there is no motivation to combine these references to render Applicants' invention obvious.

"There are three possible sources for a motivation to combine references: the nature of the problem to be solved, the teachings of the prior art, and the knowledge of persons of ordinary skill in the art." *In re Rouffet*, 149 F.3d 1350, 1357, 47 USPQ2d 1453, 1457-58 (Fed. Cir. 1998) (The combination of the references taught every element of the claimed invention, however without a motivation to combine, a rejection based on a *prima facie* case of obvious was held improper.) The level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v VSI Int'l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999).

Obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either explicitly or implicitly in the references themselves or in the knowledge generally available to one of ordinary skill in the art. "The test for an implicit showing is what the combined teachings, knowledge of one of ordinary skill in the art, and the nature of the problem to be solved as a whole would have suggested to those of ordinary skill in the art." *In re Kotzab*, 217 F.3d 1365, 1370 55 USPQ2d 1313, 1317 (Fed. Cir. 2000). See also > *In re Lee*, 277 F.3d 1338, 1342-44, 61 USPQ2d 1430, 1433-34 (Fed. Cir. 2002) (discussing the importance of relying on objective

evidence and making specific factual findings with respect to the motivation to combine references);< *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988); *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992).

The mere fact that references can be combined or modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. *In re Mills*, 916 F.2d 680, 16 USPQ2d 1430 (Fed. Cir. 1990) (Claims were directed to an apparatus for producing an aerated cementitious composition by drawing air into the cementitious composition by driving the output pump at a capacity greater than the feed rate. The prior art reference taught that the feed means can be run at a variable speed, however the court found that this does not require that the output pump be run at the claimed speed so that air is drawn into the mixing chamber and is entrained in the ingredients during operation. Although a prior art device “may be capable of being modified to run the way the apparatus is claimed, there must be a suggestion or motivation in the reference to do so.” 916 F.2d at 682, 16 USPQ2d at 1432.). See also *In re Fritch*, 972 F.2d 1260, 23 USPQ2d 1780 (Fed. Cir. 1992) (flexible landscape edging device which is conformable to a ground surface of varying slope not suggested by combination of prior art references).

Thus, Applicants believe Claims 1, 9 and 15, as amended, patentably distinguish over the art of record. Likewise, Claims 2-8 and 11-14, which depend from one of these independent claims, are also believed to patentably distinguish over the art of record. Reconsideration of the rejection is respectfully requested.

### NEW CLAIMS

New Claims 17-29 include independent Claim 21 which includes similar limitations discussed above from Claims 1, 9 and 15. Claims 17-20 and 22-29 are dependent claims which further limit one of the independent claims. Thus, Applicants believe Claims 17-29 are allowable.

### CONCLUSION

It is believed that all of the stated grounds of rejection have been properly traversed, accommodated, or rendered moot. Applicants therefore respectfully request that the Examiner reconsider and withdraw all presently outstanding rejections. It is believed that a full and complete response has been made to the outstanding Office Action, and as such, the present application is in condition for allowance. Thus, prompt and favorable consideration of this amendment is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to telephone the undersigned at (248) 641-1600.

Respectfully submitted,

Dated: November 5, 2004

By: 

Michael J. Schmidt, 34,007

HARNESS, DICKEY & PIERCE, P.L.C.  
P.O. Box 828  
Bloomfield Hills, Michigan 48303  
(248) 641-1600

MJS/pmg